Improving Rural Health via Telemedicine in Louisiana and Beyond
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Good afternoon Senators and distinguished guests, my name is Dr. Richard Ferrans. I am an Assistant Professor of Public Health and Assistant Professor of Medicine at the Louisiana State University School of Medicine at New Orleans. I am the Chief of Medical Informatics and Telemedicine at LSU, and I am the Director of the Louisiana Telemedicine Program, one of the largest Telemedicine systems in the nation. I am also a member of the Southern Governors Association Task Force for Medical Technology, which is charged with developing Telemedicine policy for the South. Just two days ago we delivered our final report to the Southern Governors at their annual meeting in Memphis. I have submitted a copy of this report into the record.

I have the distinct honor of serving as a member of the Computer Based Patient Record Workgroup of the National Committee for Vital and Health Statistics, which is charged under HIPAA with identifying standards for electronic patient medical record information and making legislative recommendations to the Congress. I am a Consultant to the Department of Veterans Affairs for Information Technology, where I have served at the Executive Committee level of the Government Computer Based Patient Project, the future system of shared electronic medical records established under Presidential Directive for the Department of Defense, Veterans Affairs, and the Indian Health Service. I am the Principal Investigator on several Telemedicine and Information Technology grants from both the federal and state governments.

My profession of Medical Informatics deals with the use of information systems and telecommunications to improve the delivery of healthcare, and I thank you for the opportunity to address the issue of Telemedicine. In particular, I wish to thank Senator Breaux and his fine staff for their support of our initiatives at Louisiana State University Health Sciences Center.

Ladies and Gentleman, the future is upon us at a speed that is dizzying even to those of us who are deeply involved on the bleeding edge. Technology has transformed commerce to E-Commerce, created wealth on a scale unimaginable just five years ago, and continues to drive the economy in our bullish times. I, like many other Americans, purchase everything from airline tickets to toys for my children online, and I do virtually all business correspondence by e-mail. So what do I predict will be the next development in the New Economy? The answer is E-Health. The opportunity exists to improve the quality of care, lower costs, and extend high quality care to the medically underserved using sophisticated information systems

and telecommunications. Today I will attempt to address the utilization of Telemedicine in Louisiana to improve healthcare, the barriers to progress, and the specific policy recommendations that will lower barriers.

Telemedicine can be defined as the use of telecommunications technology and information systems to deliver clinical care at a distance. In a typical Telemedicine encounter, a patient in a rural facility such as Villa Feliciana is examined in real time by a specialist far away at an our medical center in New Orleans. The physician can take a history, listen to heart sounds, examine the skin, eyes, ears, and throat in exquisite detail, listen to heart and lung sounds, and review x-rays, EKGs, and other clinical data. In the instance I just described, the patient did not have to travel over a hundred miles, in many cases returning home in worse shape than when he or she left because of the travel. In a home care situation, a patient with congestive heart failure or emphysema can follow up with a physician or nurse to refine his or her care plan, keeping that patient out the costly revolving door of frequent hospital readmission. As a doctor, I can tell you that this is about bringing care to the patient instead of the patient to the care. As an expert in medical technology, I can tell you that this can be accomplished in large part with off the shelf hardware and software that exists today from Microsoft, Intel, Dell, Cisco, and Bell South, along with some computer peripherals specialized for medicine. To give you a rough idea about cost, a typical telemedicine station can cost as little as fifteen thousand dollars, a fourfold reduction in just a few years. The total cost of ownership of course is higher because of staffing, support, and especially telecommunications costs.

How are we improving care in Louisiana? First, we are using advanced technology to transform the oldest existing hospital system in the nation, the Public Hospital System in Louisiana (formerly known as the Charity Hospital System). It was founded in 1736 and was recently turned over to the LSU Health Sciences Center by Act III of the State Legislature in 1997. Under the leadership of our Chancellor Dr. Mervin Trail and our Dean Dr. Robert Marier, we have embraced technology as a critical tool in our efforts to reform and transform our healthcare system in Louisiana that provides services to all irrespective of their ability to pay. We are in the process of instituting a system of computer based patient records using Internet technologies that will deliver information to the point of care, enable outcomes measurement, and facilitate bast practices. But that is not enough. A safety net system of care caring for almost two million patients, we are committed to network our hospitals and clinics with rural facilities using Telemedicine. We have recently begun to design a more integrated and comprehensive Telemedicine system providing multi-specialty care under the auspices of a Southern Rural Access Grant from the Robert Wood Johnson Foundation. The pilot program is in the rural parishes surrounding Lafayette. We have been providing care to rural Louisiana for several years using Telemedicine; we project to see over two thousand patients next year via Telemedicine.

Two years ago Vice President Gore and I took a brief medical history online and reviewed the echocardiogram of a patient named Sally Soignet in Church Point, Louisiana using our Telemedicine. Dr. Michael Felton, a family practitioner in Church Point, consulted with one of our Cardiologists, who correctly diagnosed her with a rare disorder, called Primary Pulmonary Hypertension. Miss Soignet did not need to travel three hours by car each way to get her echo; it was done online, in real time.

The LSU Health Sciences Center is committed to bring emergency services online. Today, we embark upon building the Teletrauma Network of Louisiana, an Emergency Telemedicine system that will bring the expertise of our world class Trauma Team in New Orleans to rural hospitals in Southern Louisiana. This will enable an accident victim at a rural hospital such as Riverside Medical Center or St. James Parish Hospital to be seen via Telemedicine by a board certified Trauma Surgeon at Charity Hospital in New Orleans, one of two Level-One Trauma Centers in the state. In the near future, our surgical experts using Next Generation Internet technology can instantly evaluate a sugar cane farmer from Houma injured by a combine during grinding season, or an injured driver travelling from Lafourche Parish to Baton Rouge. Aggressive stabilization can then be instituted during the so-called Golden Hour, which is the first hour after major trauma when care decisions literally mean the difference between life and death. Rural citizens can be evaluated by our Emergency Medicine and Trauma Surgery staff that are among the most experienced in the nation: our ER sees 180 thousand patients a year, and the Trauma Team alone admits six thousand patients on an annual basis. In the future, we hope to extend our services to include heart attacks, strokes, poisonings, pediatric emergencies, and other high risk, time dependent care situations. Again, we see our mission to go beyond our walls and take a lead in addressing the needs of our rural citizens. At a fundamental level, they deserve the same quality of care as their urban counterparts; we are determined to bring the doctor to the patient using Telemedicine.

In the next year we will extend our Telemedical services to eight more long term facilities for the severely disabled, including the Pinecrest State School that has over 800 patients with severe to profound mental retardation, many of whom are elderly. We are reaching out to more rural hospitals to offer services in Cardiology, Dermatology, and Radiology, among others. We are providing more and more online medical care to inmates at local and state prisons, such as the care provided by our doctors at E.A. Conway Hospital in Monroe, Louisiana to Wade Correctional Institute. This is making our hospitals safer for our patients while also aggressively treating an aging prison population) before the inmates experience costly complications from untreated disorders. We are also linking up with rural hospitals to provide much needed specialty psychiatric care. Imagine a patient with a psychiatric illness deemed a suicide risk, and sent to New Orleans from Chabert Medical Center in Houma, Louisiana, who spends 16 hours being observed, only to be released, with no way home, and afraid to take a note to his employer. We will

prescreen these patients online, thus eliminating unnecessary transfers. We have even submitted a federal grant proposal with the Archdiocese of New Orleans to place high-speed video connections at homeless shelters so that a nurse practitioner in a mobile van parked outside can have instant communication with family practitioners and medical specialists at our hospital to care for those who are unable to do so on their own.

From a broader perspective, we continue to invest heavily in advanced network infrastructure. We are laying down fiber between our major hospitals using Next Generation Internet equipment and transmission protocols that have the capacity of delivering 45 megabits per second of data, over 400 times the capacity of a standard 56K dial up modem.

What about security? Well, let me say this: the privacy and confidentiality of our patient's medical records and encounters is of paramount importance. Our Telemedicine encounters are done over secure private networks, and we will soon implement a system of electronic fingerprint security for all of our clinical workstations, thanks to an eight hundred thousand-dollar grant from the Louisiana State Innovation Fund. We will redefine the term "need to know" by using strong user identification in advance of the security requirements of HIPAA. Lack of security can erode a patient's trust and erode our ability to accurately diagnose and treat our citizens. For almost a year we have been working with a high tech healthcare security software company to refine the security software that will go in all of our facilities. The good news is that the technology is inexpensive. This means that in the future, we could grant secure access for our patient information to rural providers, thus creating a better feedback loop for their referrals into our system. We share patients with rural providers: we must improve our ability to share information.

LSU Health Sciences Center trains 90 percent of the primary care physicians in the state; our students and residents are the rural doctors of tomorrow. Family Practice physicians in training can spend more time in rural hospitals, because LSU Medical School in Shreveport beams their required noon conferences to them over the same network. All of our junior and senior medical students have subsidized access to twenty medical textbooks and sixty full text journals using MDConsult, an online medical reference service. In the future, these students will consult with specialists from their desktops in rural Louisiana, electronically schedule the patients, view the ordered chest x-ray, and obtain CME credit, all from the same computer. This is our vision. Remember that less time searching for charts and calling other hospitals for results translates into more time with the patient.

Why are we so successful? I think for four main reasons, which are illustrative of the barriers of Telemedicine. These barriers are at various levels, and I will highlight those that the Congress has the power to lower.

First, we have unusually low telecommunications rates for rural healthcare in Louisiana. This makes everything possible. Lower rates have been in place for several years because of a unique settlement between the State and Bell South. Without low rates, rural hospitals will not participate. Many live on the edge of economic existence, and we must do what we can to protect them.

The Congress attempted to assist rural hospitals by establishing lower telecommunications rates when it passed the Telecommunication Act of 1996. One provision of the law was supposed to connect schools and libraries to the Internet, which in large part it accomplished. A lesser-known provision dealt with establishing telecommunications discounts to rural hospitals though the Universal Service Fund. This program has been under-funded and has even seen its funding cut by the FCC. The paperwork burden for rural hospitals itself serves as a powerful deterrent to those who would apply. And sadly, I will tell you that not a penny has been received by rural hospitals. This program needs to be simplified, expanded to include multiple lines, higher bandwidth services, and should not exclude long distance carriers. So my first recommendation to you is to urge the Federal Communications Commission to fulfill the intent of the Telecommunications Act. Our eighteen southern governors wholeheartedly agree with this position, and they are sending a letter to Chairman Kennard on behalf of the SGA.

The second reason deals with reimbursement. It is intuitive that no business can flourish if it cannot charge for its services. This is the situation with Telemedicine. We are successful in Louisiana because we have full coverage for Telemedicine by private insurance and Medicaid. The former is due to a state law, the latter through a state regulatory process. And we have a relatively low Medicare (15%) population in our system. If our doctors see a patient via Telemedicine, they get paid, plain and simple.

Medicare is a different story. After resisting Telemedicine coverage for years, HCFA finally relented and began providing coverage. To our great dismay, they limited coverage to Health Professional Shortage Areas, and proposed a fee to be split between the referring and consulting physicians. In the opinion of every physician I have spoken to, this fee splitting causes numerous ethical, legal, and administrative concerns. Furthermore, HCFA reports 100 percent of the fee as going to the consultant, who after "fee splitting" is still responsible for taxes on the 100 percent. Rural doctors have told me, "Fee splitting is illegal if I send a sick patient a hundred miles to see a specialist, but it is required if the same doctor sees them in my office via Telemedicine." And from the consultants' view, many have remarked that "seventy five percent of Medicare allowable fees is a money loser for my practice." Physicians' income has declined, and doctors will not practice Telemedicine if it will only worsen the problem.

So my second recommendation to you is have HCFA reimburse 100 percent of fees to the consultant, permit reimbursement for all covered services and in general treat

a Telemedicine encounter like any other encounter. You should not need the referring physician online to present the patient for a consultant to get reimbursed. It doesn't make sense from a clinical, financial, and technologic perspective. More detailed recommendations are contained in the Medical Technology Task Force Report.

The third reason deals with infrastructure. We have built sophisticated state telecommunications backbones ourselves in conjunction with the State Board of Regents and our Office of Telecommunications Management, and others. How do we practice Telemedicine today? The answer is, not on the Internet. This is because the Internet has too many traffic jams (as you have undoubtedly experienced at about 4 PM on most days), and cannot guarantee the quality of service needed. So we are building private networks, point to point video- telephone connections if you will. So today, much of the national Telemedicine infrastructure does not consist of information superhighways, it consists of information one or two lane roads that crisscross, run in parallel, and don't connect.

The solution lies in the Next Generation Internet, a more sophisticated network and series of protocols that is rapidly evolving. This can provide what is needed to reorganize networks into point and click, multi-site conferencing, and more robust security.

How can the Congress assist? Let's use transportation as the analogy. States cannot build and maintain roads alone. If so, they might just fund single lane highways, which is precisely what is happening in Telemedicine. The federal government should help states fund information superhighways in the same manner it funds the highways we drive on. The federal government places requirements on states to receive highway dollars, and they should do the same for information superhighway dollars. The key is to require comprehensive telecommunications planning and building at the state level like we are attempting to do in Louisiana through LaNET. This scales better and is infinitely more cost effective.

So my third policy recommendation is to distribute block grants to states that carry out effective telemedicine and even broader telecommunications planning that includes distance education, and other data needs. I would recommend placing those dollars under the existing TIAPP Program from the Department of Commerce, and under the existing Biomedical Applications for the Next Generation Internet Program of the National Library of Medicine. The Library as a division of the NIH has provided remarkable leadership in advancing technology for healthcare, and TIAPP has funded many worthwhile Telemedicine programs.

Finally, LSU Health Sciences Center is succeeding because of the vision of its leadership. As a final recommendation, I would urge you to visit Telemedicine programs in your home states. The publicity from your participation and these hearings will help others join in this vision. The forum here in the Senate propels us

forward to a better future for our rural citizens.

Thank you again for allowing me to appear today.